

**Petition of Southington Solar One, LLC for a
Declaratory Ruling that no Certificate of
Environmental Compatibility and Public Need is
Required for the Proposed Construction,
Operation and Maintenance of a 4.725 +/- MW
AC Solar Photovoltaic Electric Generating
Facility Located at 1012 East Street, Southington,
Connecticut**

Prepared for the Connecticut Siting Council

July 29, 2020

Southington Solar One, LLC
150 TRUMBULL STREET, 4TH FLOOR, HARTFORD, CT

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I. Introduction

A. Purpose and Statutory Authority

Pursuant to Conn. Gen. Stat. §§ 4-176 and 16-50k(a) and Regs. Conn. State Agencies §§ 16-50j-38 *et seq.*, Southington Solar One, LLC (the “Petitioner”; or “Southington Solar One”) respectfully requests that the Connecticut Siting Council (the “Council”) approve, by declaratory ruling, the Petitioner’s proposed installation and development of a 4.725 +/- megawatt (MW) solar-based electric generating facility (the “Project”) located at 1012 East Street, Southington, Connecticut (the “Project Site”; or the “Site”).

Conn. Gen. Stat § 16-50k(a) provides, in pertinent part, that,

...[T]he council shall, in the exercise of its jurisdiction over the siting of generating facilities, approve by declaratory ruling . . . (B) the construction or location of any... grid-side distributed resources project or facility with a capacity of not more than sixty-five megawatts, as long as such project meets air and water quality standards of the Department of Energy and Environmental Protection...

In accordance with the above, the Petitioner respectfully requests that the Council approve this Project by declaratory ruling. As described in greater detail below, the proposed Project is a grid-side distributed resources facility, with a capacity of not more than sixty-five (65) megawatts, that meets the applicable air and water quality standards of the Connecticut Department of Energy and Environmental Protection (the “CTDEEP”). In addition, the Project has been designed to minimize natural resource impact(s), to the greatest extent(s) feasible, and will further the State of Connecticut’s efforts in achieving its energy conservation and sustainability goal(s).

B. Project Overview/Key Project Elements

The Project was selected and awarded a 15-year contract to participate in Connecticut’s Zero Emissions Renewable Energy Credit (“ZREC”) program.¹ The Project’s output will be used

¹ Conn. Gen. Stat. § 16-244(r), 16-244(s) and 16-244(t) require that Eversource & UI enter into 15-year contracts to purchase renewable energy credits (RECs) from qualifying projects in Connecticut at a fixed price for 15 years.

to help Connecticut meet its emissions reduction targets via the State of Connecticut's Renewable Portfolio standards and Governor Lamont's aggressive Greenhouse gas ("GHG") reduction goals.² Energy produced by the Project will be sold to Eversource at market rates specified in the applicable utility tariff with Eversource for any self-generation facility. Alternatively, in the event that virtual net metering capacity becomes available, the Project may deliver energy to certain eligible recipients through the Eversource's Virtual Net Metering Rider (effective September 24, 2019 by PURA Decision dated October 21, 2019, under Docket No. 13-08-14RE05) ("VNM Rider") or any successor rider thereto. Should virtual net metering capacity become available, the Project intends to deliver energy and allocate credits to agricultural and municipal recipients (including the Host municipality). Any participation in the virtual net metering program would be subject to all VNM Rider and other program requirements and is contingent upon the availability of virtual net metering capacity.

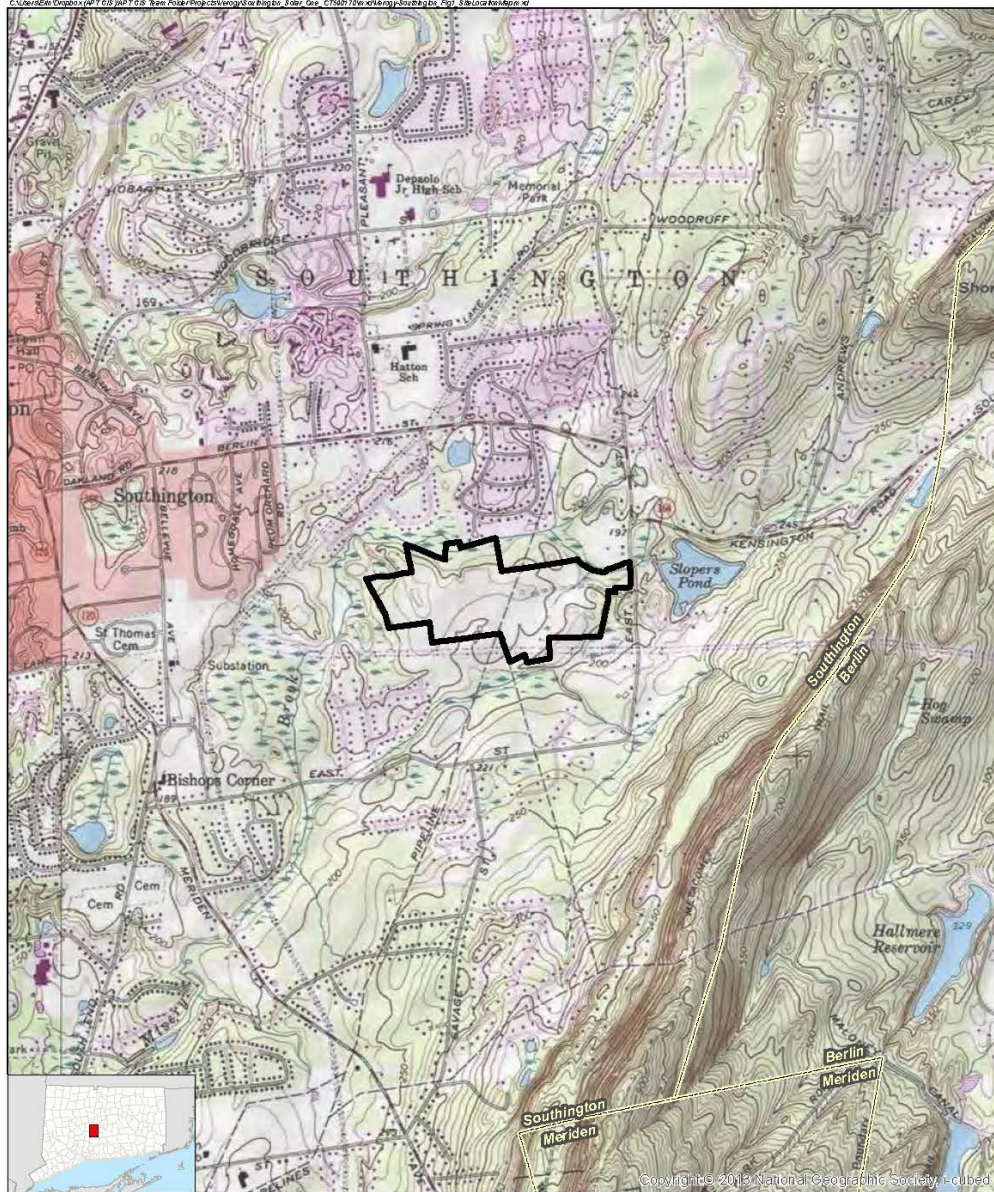
1. Site

The Project will be located at 1012 East Street, Southington, Connecticut (the "Site" or "Project Site"). The Site is zoned (R-40) Residential and is presently owned by the Catholic Cemeteries Association of the Archdiocese of Hartford, Inc.

The Site is an irregularly-shaped parcel that encompasses approximately 102.45 acres; currently, it is used for agricultural purposes, primarily as hay field. The Site is encumbered with multiple utility easements: within the central portion of the Site, two (2) gas lines run in a roughly north/south direction; an aboveground electrical transmission corridor runs in an east/west direction along the Site's southern property line; a gas easement runs along the north site of the electrical transmission corridor in an east/west direction; and a Town of Southington ("Town") sewer line runs in a north/south direction within the western extent of the Project Site. Small portions of the western and northern extents of the Site are wooded.

Figure 1, Site Location Map, depicts the location of the Site and surrounding area.

² All electricity sold in Connecticut includes a mandatory amount of renewable energy, referred to as Connecticut's Renewable Portfolio Standard or RPS. The utilities and licensed suppliers buy or trade RECs to meet these standards.

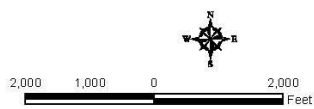


Legend
 Site

Figure 1
Site Location Map

Proposed Solar Facility - Southington Solar One
 1012 East Street
 Southington, Connecticut Southington Solar One, LLC

Map Notes:
 Base Map Source: USGS 7.5 Minute Topographic
 Quadrangle Maps: Meriden (1964), C7
 Map Scale: 1 inch = 2,000 feet
 Map Date: April 2020



2. Electrical Interconnection

The Project's electrical interconnection will be to an existing Eversource distribution pole located near the proposed entrance to the Site and will follow an existing gravel access road from East Street. Interconnection to the existing distribution system will require the installation of approximately fourteen (14) new overhead electric utility poles.

The interconnection will be performed in accordance with Eversource's technical standards and State of Connecticut, ISO-New England ("ISO-NE"), and Federal Energy Regulatory Commission ("FERC") requirements.

3. Community Relations

The Petitioner is committed to fostering positive relations with the Southington community, and has been proactive in facilitating local conversation(s)/dialogue about the Project and the benefits of solar energy, more generally. By way of example, the Petitioner has:

1. Developed a Project fact sheet, included in Appendix A, that contains pertinent Project information, including, *inter alia*, a proposed Project calendar/schedule, anticipated Project benefits, and general information regarding the Petitioner, its Project Team, and respective business operations. The Petitioner has distributed the referenced fact sheet to the nearby residences of the Project Site;
2. Created a Project-specific website, accessible at, www.verogy.com/southington-solar-one, where interested stakeholders can learn more about the Project and solar energy benefits, and submit Project-related inquiries/comments directly to the Petitioner/Project Team;
3. Engaged in regular discussions with local officials and residents about the Project; and,
4. Notified all abutters of this pending Siting Council Petition via certified mail on July 22, 2020 and notified all relevant governmental officials of the pending Petition on July 23, 2020. Copies of that information are included as Appendix B.

Further, while local land use requirements do not apply to the Project, the Petitioner has designed the Project to meet, to the greatest extent(s) feasible, the intent of Southington's and use regulations, including the Town's 2016 Plan of Conservation and Development.³

II. Legal Name and Address of Petitioner and Contact Information

The legal name of the Petitioner is Southington Solar One, LLC ("Southington Solar One"). Southington Solar One is a Connecticut limited liability company with its principal place of business in Hartford, Connecticut. Southington Solar One is in affiliate of Verogy LLC ("Verogy"). Verogy is a professional renewable energy business with decades of experience in the solar industry; the core of its business is developing, financing, constructing, managing, and operating solar projects. The management team at Verogy has constructed over 250 megawatts of solar projects across the United States.

Mailing Address: Southington Solar One, LLC
150 Trumbull Street, 4th Floor
Hartford, CT 06103

Internet Address(es): <https://www.verogy.com/>

Correspondence and other communications concerning the Project are to be addressed to, and notices, orders and other papers may be served upon, the following:

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³ See Town of Southington, *2016 Plan of Conservation and Development*, Chapter 7, p.45 (stating, in relevant part, "...in the future, Southington should encourage and implement energy reduction, energy conservation and clean power options...").

All three individuals consent to electronic mailings of all Council and Petition-related correspondence.

III. Description of Proposed Project

A. Property Description and Site Selection

The proposed Project Site is an irregularly-shaped, residentially (RU)- zoned parcel located at 1012 East Street, Southington, Connecticut, that comprises approximately 102.45 acres. The surrounding land use of the Site is characterized by residential development to the south and east of the parcel, and undeveloped forested land—with existing utility infrastructure—respectively located to the south and (slightly farther) west of the Site. The undeveloped expanses of the Metacomet Trail and Hubbard Park are located to the south and southeast areas of the Project Site; commercial development becomes more prevalent farther northwest of the Site.

The Facility itself will be sited primarily within an existing agricultural field centrally located on the Site (the “Project Area”) and will encompass approximately thirty-one (31) acres—in turn, leaving approximately seventy (70%) percent of the Site undeveloped and available for other uses—such as, agriculture and open space.

The Site’s existing topography varies throughout the parcel, with its agricultural fields being of gradual grades and the wooded areas being characterized as more steeply-sloped. The grades within the Project Area drop gently from north to south/southeast, with ground elevations ranging from approximately 210 feet above mean sea level (“AMSL”) in the northwest to 190 feet AMSL to the southeast. Aside from a small segment in the northeast corner of the Project Area—which has slopes ranging between ten (10%) and fifteen (15%) percent—the Project Area generally has slopes less than five (5%) percent. To the eastern side of the Project Area, significant wetland areas—e.g., streams, wetlands, vernal pools, and FEMA mapped floodplain—are present.

Figure 2, Existing Conditions Map, featured on the next page, depicts the current conditions of the Site.

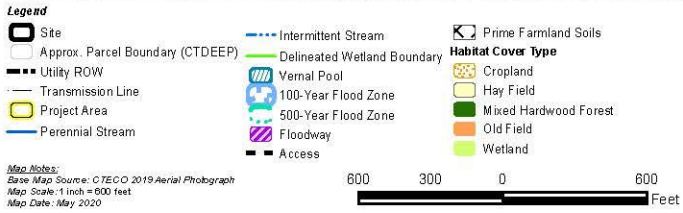
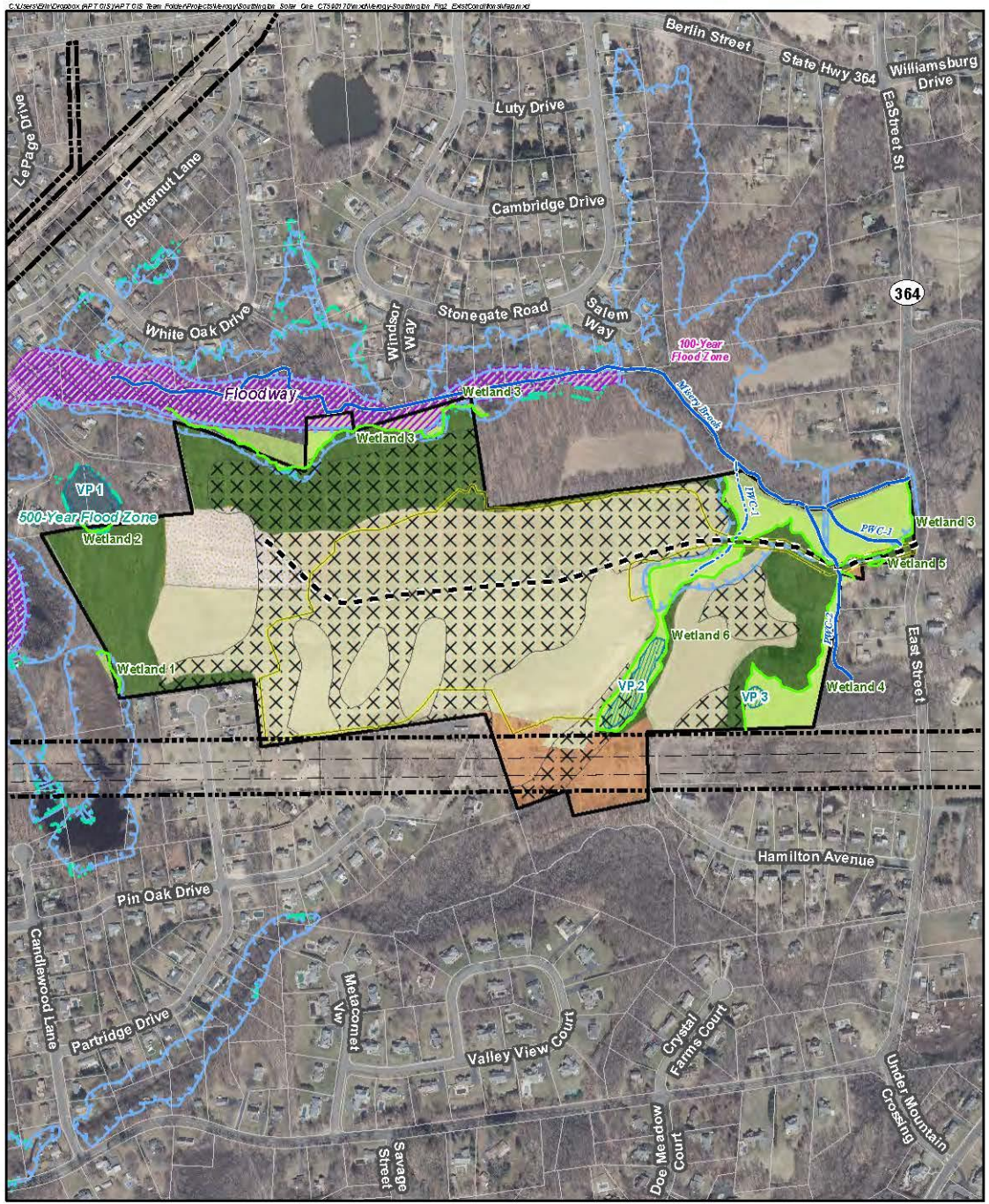


Figure 2
Existing Conditions Map
 Proposed Solar Facility - Southington Solar One
 1012 East Street
 Southington, Connecticut
 Southington Solar One, LLC

The Petitioner selected the Site due to the minimal impact(s) the Project will have on the existing environmental conditions of the area. More specifically, the Facility is proposed to be located on land that is pre-cleared, thereby minimizing the amount of tree-clearing required; the Facility will not impact any wetland habitats present on, or proximate to, the Site; and appropriate setbacks from neighboring properties have been incorporated into the Project's Site Design. Lastly, the Project Area is in close proximity to the electrical infrastructure that is necessary to interconnect the Project to the Eversource distribution network—thereby negating the creation of additional impervious surface(s) on the Site.

B. Proposed Project Description

As proposed, the Project includes the installation of 18,798 solar panels (3,120 Risen RSM144-6 380W and 15,678 Trina TSM-DE15MC 390W modules) and associated fencing, access road(s), utility and stormwater management features, within the central portion of the Site—outside of all documented resource areas. Proposed development drawings are provided in the *Project Plans* portion of the Environmental Assessment for the Project. That Environmental Assessment is included as Appendix C.

The following sections provide details regarding the Project's solar panels and related ground equipment; expected service life and capacity factor; a description of Project features, plans for electrical interconnection; construction schedule and phasing; operational and maintenance ("O&M") information; and a decommissioning plan.

1. Solar Panels and Related Ground Equipment

As currently designed,⁴ the solar electric energy generating facility ("Facility") will consist of 15,678 Trina TSM-DE15MC 390W and 3,120 Risen RSM144-6 380W, for an aggregate total of 18,798 photovoltaic modules ("panels"); 37 Solectria Solar's XGI 1500-125/125 inverters; one (1) Chint CPS SCH100KTL-DO/US-600 inverter; three (3) pad mounted switchgears; three (3) transformers;⁵ and, one (1) service interconnection line. The leading edge of the Facility's panels

⁴ All materials discussed in this section are indicative of the materials that will be used on the project. The specific brands and configurations of materials will be finalized based on product availability and cost, if the Project is approved by the Council.

⁵ The proposed transformers are one (1) 250 kVA, one (1) 1,000 kVA and one (1) 2,000 kVA.

will be positioned approximately thirty-six (36) inches above the existing ground surface, which, in turn, will provide adequate room for any accumulating snow to “sheet” off. Any production degradation due to snow build-up has already been modeled into the annual system output and performance calculations for the Facility. A ground-mounted racking system will be used to secure the Facility panel arrays. The Facility will be bisected by two (2) existing gas easements—thereby separating the Facility into three (3) sections; each of which will be enclosed by a six (6)-foot tall chain-link security fence.

Upon completion, the Project will occupy approximately 26.4 acres of the Site—with an additional ±11.05 acres of improvements beyond the fenced Facility limits—for a total of ±37.45 acres (“Project Area”).

2. Service Life and Capacity Factor

The Facility’s panels and inverters have an anticipated service life of thirty-five (35) years. Solar PV has an expected net AC capacity factor of approximately 21.9 (%) percent.

3. Site Access

The Facility will be accessed from the east, utilizing an existing gravel access road, which originates off of East Street and extends into the open field on the Site.

The Petitioner expects that approximately 900 feet of the existing gravel road will need to be improved. In addition, to accommodate Facility construction—and to provide service/maintenance vehicles access/egress within and around same—an additional ±3,170 feet of new gravel roads will need to be constructed on-Site.⁶

4. Interconnection

The Project’s proposed electrical interconnection line will follow the existing gravel access road and extend above ground to an existing Eversource distribution pole located near the proposed entrance to the Site. The interconnection will be performed in accordance with

⁶ Both the improvements to the existing access road, as well as the development of the proposed access roads, will require minimal grading and gravel resurfacing.

Eversource's technical standards and State of Connecticut, ISO-New England ("ISO-NE"), and Federal Energy Regulatory Commission ("FERC") requirements.

5. Construction Schedule and Phasing

The Petitioner expects that construction of the Project will begin in October of 2020 and will take approximately six (6) months. Construction activities within the Project Area will include: limited tree clearing; grading (to incorporate stormwater best management practices); the installation/implementation of erosion and sedimentation ("E&S") control measures, visual screening (plantings), and habitat enhancement areas; racking and module installation; electrical trenching; overhead utility interconnection, and new access road development.

The Petitioner anticipates that approximately 0.95 acres of tree clearing along the existing access road will be required to accommodate the installation of the seven (7) new overhead electric utility poles. Existing grades throughout the Project Area will remain except in areas of the stormwater management features, which will require some manipulation (cuts/fills) and regrading.

The Petitioner's preliminary construction plans are as follows:

PHASE 1

1. Remove existing impediments as necessary and provide minimal clearing and grubbing to install the required construction entrances.
2. Clear only as needed to install the perimeter erosion and sedimentation control measures and, if applicable, tree protection. All wetland areas shall be protected before major construction begins.
3. Install perimeter erosion control.
4. Install erosion control below equipment area and install concrete equipment pads and conduits protected by these controls.
5. Install temporary sediment trap 1 and associated swales. Upon completion installation and stabilization of the basin swales, work up gradient can proceed.
6. Install temporary sediment trap 2 and associated swales. Upon completion installation and stabilization of the basin swales, work up gradient can proceed.

7. Install temporary sediment basin 3 and associated swales. Upon completion installation and stabilization of the basin swales, work up gradient can proceed.
8. Install temporary sediment trap and associated swales. Upon completion installation and stabilization of the basin swales, work up gradient can proceed.
9. Install temporary sediment basin 5 and associated swales. Upon completion installation and stabilization of the basin swales, work up gradient can proceed.

Phase 2

1. Upon completion of the installation of each of the temporary sediment basins; the area above the basin can have the remaining array area clearing and grubbing completed as required. Remove and dispose of demolition debris off-site in accordance with applicable laws.
2. Temporarily seed disturbed areas not under construction for thirty (30) days or more.
3. Install remaining electrical conduit.
4. Install racking posts for ground mounted solar panels.
5. Install ground mounted solar panels and complete electrical installation.
6. After substantial completion of the installation of the solar panels, complete remaining site work, including ant required landscape screening, and stabilize all disturbed areas.
7. Fine grade, rake, seed, and mulch all remaining disturbed areas.
8. After the site is stabilized and with the approval of the permittee and the Town of Southington agent, remove perimeter erosion and sedimentary control measures.

6. Project Maintenance

Required maintenance of the Project will be minimal; it is anticipated that the Facility will require mowing and routine maintenance of the electrical equipment one (1) time per year, which will typically involve two (2) technicians. The Petitioner does not expect that any snow-removal operations will be necessary for the Project, as the selective positioning of the Facility's panels allows for any accumulating snow to "sheet" off. Repairs to the Facility will be made on an as-needed basis.

7. Project Decommissioning

At the end of its lifespan, the Project will be fully decommissioned and removed from the Site. Once the Project is removed, the Petitioner will restore the Site to its original condition.

IV. Project Benefits

As a Class I Renewable Energy Source, the Project will not only help support the State in achieving its goal of developing “renewable energy resources, such as solar and wind energy, to the maximum practicable extent,”⁷ but will also advance the goals set forth in Governor Lamont’s September 2019 Executive Order No. 3, providing for a zero-carbon-target for the electricity generation sector by 2040. The Project will also provide a host of environmental and economic benefits to the State of Connecticut and the Town of Southington, including, but not limited to the following:

- The 4.725 MW AC system will generate enough electricity to power 1,126 average homes for one year
- The Project will generate the majority of its power during the summer electrical peak, thereby providing peaking resources when the State has its greatest need for same. See Conn. Gen. Stat. § 16-50p(c)(1) (a project provides a public benefit if it is deemed “necessary for the reliability of the electric power supply of the state or for a competitive market for electricity”);
- The above-referenced reduction in energy demand during peak usage will, in turn, decrease energy costs for ratepayers statewide;
- The Project is designed to have minimal environmental impacts with no disruption to wetland or core forest habitats
- When completed, the Project will use an estimated 31 acres out of a total 103 acres—in turn, leaving 70% of the parcel undeveloped and available for other uses, including agriculture and open space.
- New annual municipal tax revenues will flow to the Town of Southington with no additional burden on Town services;
- Infrastructure upgrades will improve the reliability of Southington’s electrical grid;
- The creation of twenty-five (25) construction jobs and two (2) new full-time jobs in the greater Hartford region;
- Energy generation without any water consumption or pollution;

⁷ Conn. Gen. Stat. § 16a-35k.

- Energy generation without any air emissions, including emissions of harmful greenhouse gas; and,
- The Project, once operational, will offset the equivalent of 6,455 metric tons of CO₂ annually—the same amount as 106,733 tree seedlings grown for 10 years or 15,782,089 miles driven by the average passenger car.

V. Potential Environmental Effects

This Section provides an overview of the Site's current environmental conditions and an evaluation of the Project's potential impact(s) to same. As the following demonstrates, the Project will comply with the air and water quality standards promulgated by the CTDEEP and will not have an undue adverse effect on the existing environment/ecology of the Site and surrounding area(s).

Figure 3, Proposed Conditions Map, provides a depiction of the Project and its compatibility with the Site resources discussed herein.

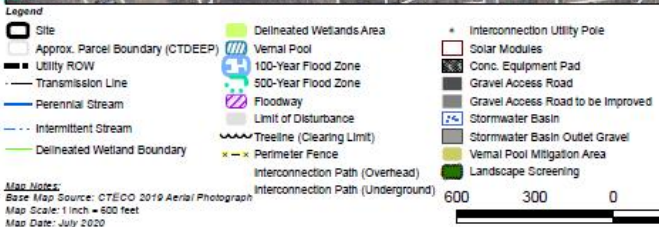
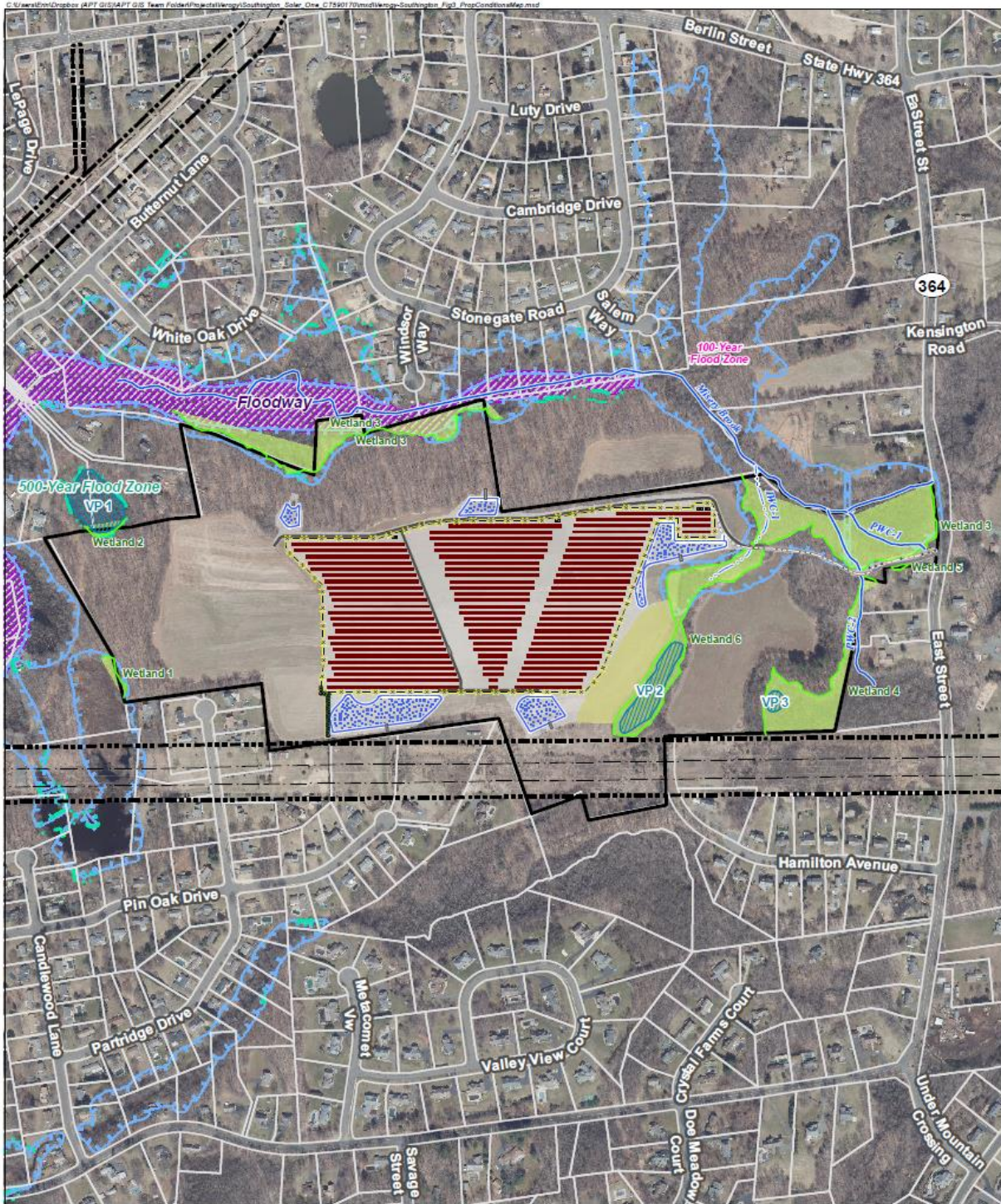


Figure 3
Proposed Conditions Map
 Proposed Solar Facility - Southington Solar One
 1012 East Street
 Southington, Connecticut
 Southington Solar One, LLC

Map Notes:
 Base Map Source: CTECO 2019 Aerial Photograph
 Map Scale: 1 inch = 600 feet
 Map Date: July 2020



A. Public Health and Safety

The Project will meet and/or exceed all applicable local, state, national, and industry health and safety standards and requirements related to electric power generation.

Regarding public health, as a photovoltaic (“PV”) technology, the Facility will produce clean, emissions-free electricity that can help reduce the State’s GHG emissions. Accordingly, the Project will neither consume any raw materials nor produce any by-products, and the Facility will remain unstaffed during normal operating conditions. This, in turn, limits the potential for traffic congestion on/around the Site, and minimizes the potential for motor vehicle-related emissions and pollutants.

In terms of safety, the Facility will be enclosed by a six (6)-foot tall chain-link fence. The entrances to the Facility will be gated, limiting access to authorized personnel only.⁸ All Town emergency response personnel will be provided access via a Knox Pad lock. The Facility will be remotely monitored and will have the ability to remotely de-energize in the case of an emergency.

B. Federal, Local and State Land Use, Conservation and Development Plans

The Project is consistent with state and federal policies and will advance Connecticut’s energy goals by developing a renewable energy resource that does not pose a substantially adverse effect to the environment. Further, while local land use requirements do not apply to the Project, it has nonetheless been designed to meet, to the greatest extent(s) feasible, the intent of Southington’s land use regulations.⁹ In addition, deployment of the Project will benefit the local community by improving electrical service for existing and future development in the Town of

⁸ One (1) gate will be installed along the northern fence line of each of the three (3) fenced areas and four (4) secondary grates will be installed on southern fence lines to provide access for maintenance of stormwater management basins.

⁹ Specifically, the Project meets the goal of Chapter 7 (Page 45) of the Town’s 2016 Plan of Conservation and Development which states, in relevant part, “...in the future, Southington should encourage and implement energy reduction, energy conservation and clean power options...”.

Southington through the availability of enhanced local generating capacity that does not rely on the congested regional electrical transmission networks.

C. Ecological, Vegetation, Wildlife Habitat, and Natural Diversity Database and Endangered Species

1. Habitats/Habitat Enhancement Plan(s)

Identified Habitats

The attached Environmental Assessment (“EA”), prepared by All-Points Technology Corporation, P.C (“APT”), describes, in detail, the Site’s existing habitat(s). See Appendix C. To summarize the findings contained therein, five (5) distinct habitat types were identified on the Site: Cropland, Hay Field, Mixed Hardwood Forest, Old Field, and Wetland.¹⁰ The Project’s anticipated impacts to same, however, are minimal.

Cropland

The northwestern extent(s) of the Project Site contain(s) a small, regularly cultivated crop field/garden. During Site inspections performed in the Spring of 2020, APT observed that a cover crop of rye grass dominated this area.

A narrow edge of the Project Area lies within the Cropland habitat; however, because these cultivated fields have been, and presently are, subject to routine management activities, the installation of the Project should not result in a significant impact to the functions provided thereby.

Hay Field

The Hay Field habitat generally occurs on the Site’s central hilltop, as well as the easterly facing slope above Wetland 6. This habitat consists of complexes of grasses and forbs and is primarily dominated by orchard grass (*Dactylis glomerata*). Other noted species in this habitat include goldenrods (*Solidago spp.*), clover (*Trifolium spp.*), mugwort (*Artemisia vulgaris*), bedstraw (*Galium spp.*) and wild carrot (*Daucus carota*). Presently, the Hay Field habitat is maintained

¹⁰ Each of the identified habitat types are separated by transitional ecotones.

through routine mowing (to harvest the hay crop); one (1)-ton bales of hay are stored along the margins of the Hay Field area.

The majority of the Project Area lies within the Hay Field habitat. However, because this habitat is comprised of complexes of cool season grasses that are maintained through routine mowing/haying activities, the installation of the Project should not result in a significant alteration to the ground underlying the respective Facility components. While the Petitioner expects that minor modifications to existing conditions will likely result from shading beneath the panel arrays, the Petitioner's proposed post-construction vegetation maintenance plan will mimic or improve the management activities currently employed within this habitat. Other potential impacts resulting from the Facility's installation include changes in density and/or species composition of cool season grasses and clovers. Please refer to the Habitat Enhancement Plan section below for more information on the Petitioner's proposed mitigative strategy(ies) for this area.

Mixed Hardwood Forest

The Site's Mixed Hardwood Forest habitat consists predominantly of mature, second-growth hardwoods. The forest is largely characterized by closed canopy conditions, resulting in moderate understory growth. Common tree species in this area include black cherry (*Prunus serotina*), black oak (*Quercus velutina*), red oak (*Quercus rubra*), white oak (*Quercus alba*), sugar maple (*Acer saccharum*), American beech (*Fagus grandifolia*) and musclewood (*Carpinus caroliniana*). The shrub and mid-story species include burning bush (*Euonymus alatus*) and crabapple (*Malus spp.*). Coniferous trees present on the Site include scattered white pine (*Pinus strobus*), and eastern red cedars (*Juniperus virginiana*) are common along the field-forest transition zone.

Groundcover and vine species in this habitat include Christmas fern (*Polystichum acrostichoides*), Asiatic bittersweet (*Celastrus orbiculatus*), grapevine (*Vitis spp.*), garlic mustard (*Alliaria petiolata*), and clubmosses (*Lycopodium spp.*).

Invasive non-native species, including multiflora rose (*Rosa multiflora*), winged euonymus (*Euonymus alatus*), autumn olive (*Elaeagnus umbellata*) and Japanese honeysuckle (*Lonicera japonica*), are common in the areas where the forest borders the agricultural portions of the Site.

Marginal Project activities—including the removal of select trees for shading mitigation purposes—are proposed solely along the northernmost fringe of the existing “edge” upland forest habitat. As such, the Project is not expected to result in a significant negative impact to the Mixed Hardwood Forest Habitat present on the Site.

Old Field

Late Old Field habitat occupies the areas south of the Hay Field, as well as the southern lobe of Wetland 6. The existing electrical transmission corridor extends through this area. The invasive, non-native autumn olive dominates this habitat; other present species include crabapple, Asiatic bittersweet, goldenrods, eastern red cedar, and mugwort.

The Project is not expected to result in a significant negative impact to the Site's Old Field habitat for several reasons. First, as this habitat is dominated by invasive, non-native species, its wildlife value is already heavily diminished/compromised. Second, the Project is expected to affect only 0.14 acres (out of a total 5.5 acres on-Site)—as such, the impact to same is arguably *de minimis*.

Wetland

Six (6) wetland areas are present on-Site. As these wetlands consist of a complex of habitat types, a more detailed discussion of each wetland is provided in Section V, D, below.

Table 1, *Habitat Assessment and Impacts Table*, provides calculations of the total on-Site areas of the above-referenced habitat types, and the areas proposed to be impacted by the Project:

Table 1: Habitat Assessment and Impacts Table

Table 1: Habitat Assessment and Impacts Table		
Habitat Type	Total Area On-Site (+/- ac.)	Area Affected by Project (+/- ac.)
Cropland	4.5	0.06
Hay field	55.5	35.65
Mixed Hardwood Forest	25.9	1.54
Old Field	5.5	0.15
Wetlands	11.1	0.06

Habitat Enhancement Plan

Two areas of the Site are proposed for habitat enhancement. The respective habitat enhancement plans for these areas are summarized below.

Wildflower Pollinator Area

To prevent shading of the solar arrays, the area to the southwest of the Facility—between the perimeter fence and the existing forest edge—needs to remain clear of mature trees. This area

will be sown with a pollinator-friendly wildflower seed mix that will also provide a food source for sheep that will be grazing on the site. This will be a soft ecotone that can provide cover and a suitable environment for certain smaller wildlife that will be compatible with the sheep as well as edge-nesting birds.

Vernal Pool Mitigation Area

A second Habitat Enhancement Area is proposed along the southeast side of the Facility within the vernal pool envelope (“VPE”) associated with Vernal Pool 1. This area will be cleared, scarified, and re-seeded; it will then remain un-mowed, which will allow the area to naturally revegetate over time. These proposed enhancements will improve the habitat quality of this important buffer zone; and as revegetation occurs, it will transition to more optimal habitat for vernal pool dependent species.

2. Wildlife

While a diversity of habitats presently exists on-Site, in general, the size of each habitat—in conjunction with the surrounding land use(s) of the Site—creates a “limiting” factor in terms of its utilization by wildlife.

Accordingly, habitat specialists that require large (i.e., ten (10) acres or more), contiguous habitat blocks—such as, mammals and birds—are not supported by the Site’s existing environment. This is credited to the fact that, with the exception of the Hay Field habitat, each of the respective on-Site habitat blocks is less than ten (10) acres in size.¹¹

The Hay Field habitat, which is dominated by cool season grasses and forbs, is generally sufficient in terms of size and geometry to potentially support grassland nesting birds. However, because this field is routinely hayed, it is unclear if the present mowing schedule precludes its use by ground nesting bird species. Regardless, the historic/present mechanical manipulation of this area undoubtedly limits its utilization by all wildlife species.

¹¹ Note, while Mixed Hardwood Forest habitat totals more than ten (10) acres on the Site, it is comprised of fragmented blocks, each less than ten (10) acres in size. Therefore, this habitat type is similarly unsupportive.

The complexity of the habitats on-Site, does, however, provide a higher quality environment for Generalist wildlife species—meaning, those species that are more tolerant of human disturbance, habitat fragmentation, and “edge” effects. Such species include several songbirds and mammal types, including raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), grey squirrel (*Sciurus carolinensis*), Virginia opossum (*Didelphus virginiana*), and eastern chipmunk (*Tamias striatus*). While these species could be expected to use portions of the Site, the Project is not anticipated to have a significant negative impact to same.

Lastly, Misery Brook—which flows generally east to west through a wooded corridor immediately north of the Site—is a substantial riparian corridor with intact bordering wetlands/uplands and hosts a diversity of habitat types. Therefore, it has the potential for supporting many diverse wildlife species. While dense residential development to its north somewhat diminishes its quality, it nonetheless likely represents an important migratory pathway for wildlife. However, because the Project will not encroach within 300+ feet of Misery Brook, it will not have a significant negative impact to this resource.

3. Core Forest

APT—through utilization of two (2) publicly available GIS-based datasets designed to assess impacts to core forest habitat—evaluated the size and extent of the contiguous interior forest block (or “core forest”) present within and adjacent to the Site. In addition, APT performed an independent evaluation of the Site (based on GIS analysis of 2016 leaf-off aerial photography, field observations, and professional experience). As described in further detail below, the evaluations revealed that the Site does not contain any forested habitats identified as “core” forest.

The first dataset, the CTDEEP’s *Forestland Habitat Impact Mapping*,¹² does not include the Site within an area mapped as “core forest.” The second dataset, UConn’s Center for Land

¹²Source:

<http://ctdeep.maps.arcgis.com/apps/webappviewer/index.html?id=7b81844bab634281b544c20bf2d7bfb8>: This spatial screening layer identifies prime contiguous and connected core forestland blocks. If the project intersects with the Forestland Habitat Impact Map there is a potential for material effects to core forest.

Use Education and Research's ("CLEAR") Forest Fragmentation Analysis ("FFA")¹³ study, designates "core forest" as areas greater than 300 feet from non-forested habitat. This 300-foot zone is referred to as the "edge width," and represents sub-optimal breeding habitat for forest-interior birds due to decreased forest quality, increased levels of disturbance, and increased rates of nest predation and brood parasitism within this transitional forest edge ("edge effect").

CLEAR's FFA study identifies three (3) categories of core forest: small (< 250 acres); medium (250-500 acres); and large (>500 acres). Based on the FFA criteria, the Site does not contain any forested habitats identified as "core" forest. This is consistent with the results of the independent analysis performed by APT, which revealed that no interior forest block is located on the Site. While limited forested habitat does exist on the northern and western sides of the Site, respectively, this forested habitat is entirely influenced by "edge" effects and is therefore not considered "core" forest habitat.

To accommodate the installation of the proposed overhead electric utility poles, approximately 1.2 acres of tree-clearing along the existing access road will be required. Based on the assessment(s) provided above, however, the proposed tree removal will not have any impact(s) to core forests.

Lastly, in accordance with Conn. Gen. Stat. § 16-50k(a), the Petitioner provided the CTDEEP Forestry Division ("Forestry") with certain information and materials that demonstrate that the Project will not materially affect core forest. On May 20, 2020, the Petitioner received confirmation from Forestry that the Project "... will not materially affect..." core forests. Appendix D, Forestry Correspondence.

4. Soils and Geology

Surficial materials on the majority of the Site are classified as deposits of sand overlying fines; surficial materials on the extreme eastern portion(s) of the Site are comprised of deposits of sand and gravel.

¹³ CLEAR's FFA:

http://clear.uconn.edu/projects/landscape/forestfrag/forestfrag_public%20summary.pdf

Soils located on and within the vicinity of the Site are characterized as follows.

- Manchester gravelly sandy loam - classified as an excessively drained sandy and gravelly glaciofluvial deposited soil derived from sandstone and shale and/or basalt parent material.
- Hartford sandy loam - a somewhat excessively drained sandy glaciofluvial deposited soil derived from sandstone and/or basalt parent material.
- Ellington silt loam - a moderately well-drained coarse-loamy eolian over sandy and gravelly glaciofluvial deposited soil derived from sandstone and shale and/or basalt parent material.
- Raypol silt loam - a poorly drained coarse-loamy eolian over sandy and gravelly glaciofluvial deposited soil derived from granite and/or schist and/or gneiss parent material.
- Branford silt loam - a well-drained coarse-loamy eolian over sandy and gravelly glaciofluvial deposited soil derived from sandstone and shale and/or basalt parent material.
- Saco silt loam - a very-poorly drained soil derived from coarse-silty alluvium parent material.
- Scarboro muck - a very-poorly drained sandy glaciofluvial deposited soil derived from schist and/or gneiss and/or granite parent material.

Bedrock geology beneath the Site is identified as New Haven Arkose. New Haven Arkose is described as a red, pink, and gray coarse-grained, locally conglomeratic, poorly-sorted, and indurated arkose, interbedded with brick-red micaceous, locally shaly siltstone and fine-grained feldspathic clayey sandstone. However, the Petitioner does not anticipate encountering bedrock during Project development.

The construction of the Project's two (2) eastern stormwater management basins will likely generate some excess material. Said excess material will, in turn, be used to construct the Project's southwestern basin, with any remaining material to be redistributed on-Site. The reuse of this material will result in approximately 0 cubic yards net cut/fill for the Site. Prior to the removal and/or placement of fill material, the topsoil will be stripped and stockpiled for use on the disturbed areas of the Site.

Once the proposed stormwater best management features for the Project are installed, minimal grading activities will be required. However, some minor grading may be necessary to effect the proposed improvements to the existing access road, as well as for the installation of the new interior gravel access road(s) and concrete equipment pads. This material has been accounted for in the Project's design and will be distributed accordingly on-Site (e.g., the topsoil will be spread over the disturbed areas being seeded); all exposed soils resulting from the Project's construction activities will be properly and promptly treated in accordance with the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control*.

See the Project Plans, located in Appendix C, for more information regarding same.

5. Prime Farmland Soils

Pursuant to the Code of Federal Regulations, CFR Title 7, part 657, farmland soils include land that is defined as "prime", "unique", or "farmlands of statewide or local importance," based on soil type. According to the Connecticut Environmental Conditions Online Resource Guide,¹⁴ the proposed Project Area contains Prime Farmland Soils;¹⁵ however, for the reasons proffered below, the Petitioner does not expect that the Project will materially affect same.

As a preliminary matter, over the past century, the proposed Project Area of the Site has been used primarily as agricultural land. The agricultural activities conducted thereon have, in turn, subjected the majority of the Project Area to routine disturbances associated with plowing and crop rotation—and more recently, compaction from equipment and vehicles for haying.

Further, the Petitioner has proposed using minimally intrusive methods for the Facility's construction—including, *inter alia*, utilizing pile-driven mounts for the installation of the solar panels and associated equipment—thereby minimizing the need for substantial grading. Although construction of the stormwater management basins, access road(s), and equipment pads will require excavations within areas mapped as Prime Farmland Soils, any topsoil removed in

¹⁴ Connecticut Environmental Conditions Online (CTECO) Resource Guide www.cteco.uconn.edu.

¹⁵ Please refer to Figure 2, Existing Conditions Map, for a visual representation of the prime farmland soils identified on the Project Site.

connection therewith will be segregated from underlying horizons and either stockpiled for reuse or spread elsewhere as top dressing for reestablishing vegetation. No topsoil will leave the Site.

After its useful life, the Facility will be decommissioned and all of the disturbed areas on the Site—with the exception of the access roads, which the present landowner may decide to retain—will be returned to their existing conditions. The Implementation of these proposed design strategies ensures that the Project will not materially affect the Prime Farmland Soils on-Site.

Lastly, in accordance with Connecticut General Statutes § 16-50k(a), the Petitioner initiated consultation with the Connecticut Department of Agriculture (“DOA”) in May of 2020 and met with representatives of the agency on April 27, 2020 to present the Project and discuss the presence of Prime Farmland Soils on the Site. The Petitioner followed that up with a proposal for the co-location of agricultural grazing at the project site and sent the proposal to the DOA for approval. The Petitioner is awaiting a written response from DOA, which it expects to receive shortly. A copy of that response will be sent to the Siting Council upon receipt.

Table 3, *Farmland Soils Assessment and Impacts Table* provided below details the amount of farmland soils located on the Site and the proposed impact from the Project.

Table 3: Farmland Soils Assessment and Impacts Table

Table 3: Farmland Soils Assessment and Impacts Table		
Farmland Soil Classification	Total Area On-Site (+/- ac.)	Area within Project Limits (+/- ac.)
Prime Farmland Soil Area	48.7	26.6

6. State-Listed/Threatened Species

By way of background, the CTDEEP Natural Diversity Data Base (“NDDB”) program performs hundreds of environmental reviews each year to determine the impact(s) of proposed development projects on state-listed species and to help landowners conserve the state’s biodiversity. In furtherance of this endeavor, the CTDEEP also developed maps to serve as a pre-screening tool to help applicants, such as the Petitioner, determine if there is the potential for project-related impact to state-listed species.

The NDDB maps represent approximate locations of (i) endangered, threatened and special concern species and, (ii) significant natural communities in Connecticut. The locations of species and natural communities depicted on the maps are based on data collected over the years by CTDEEP staff, scientists, conservation groups, and landowners. In some cases, an occurrence represents a location derived from literature, museum records, and/or specimens. These data are compiled and maintained in the NDDB. The general locations of species and communities are symbolized as “shaded” (or cross-hatched) areas on the maps. Exact locations have been masked to protect sensitive species from collection and disturbance and to protect landowner’s rights whenever species occur on private property.

That said, APT reviewed the most recent CTDEEP NDDB mapping (December 2019) to determine if any such species or habitats occur on or within 0.25-mile of the Project Site. The NDDB mapping reveals that the Site is located within an area potentially containing Threatened, Endangered, or Special Concern species and/or critical habitats. As such, APT pursued consultations with the NDDB and USFWS; the results of said consultations are described below.

NDDB Consultation

In conformance with CTDEEP and Council requirements, on February 23, 2020, APT submitted a review request to the NDDB with respect to the Project. Thereafter, APT received a response from the CTDEEP on March 9, 2020, indicating that its records evidence that known extant populations of two (2) State-listed Special Concern species exist in the vicinity of the Site: the spotted turtle (*Clemmys guttata*) and purple milkweed (*Asclepias purpurascens*). As a result, the CTDEEP recommended that the Petitioner undertake species surveys for same at the Site. Copies of APT’s submission and DEEP’s response are provided in the Environmental Assessment, in the section labeled *DEEP NDDB Correspondence*.

Spotted Turtle

For informational purposes, the spotted turtle is a State-listed species of Special Concern. During their annual life cycle, spotted turtles use a variety of wetland and upland habitat types; hibernation occurs in permanently-flooded, forested, or scrub-shrub wetlands, with emergent woody vegetation (including hummocks) that support trees and shrubs with underlying root masses. Spotted turtles generally emerge from hibernation from mid-March through early April. Movement between wetland systems throughout the year is common. In the late winter/early spring, turtles often move to vernal pools, which provide sunshine for thermal gain along with an

abundance of food sources, including amphibian egg masses and larvae, as well as aquatic invertebrates. Aestivation¹⁶ occurs during the warmest periods of the summer. During this period of relative dormancy, the turtles burrow into the leaf litter or under tangles of brush/woody debris in upland old field or forest, or within drawn-down forested wetlands. Upland early-successional herbaceous/shrubland habitats are used for nesting—particularly within areas of coarse-textured friable soils with sparse vegetation.

At CTDEEP's recommendation, Eric Davison of Davison Environmental, performed on-Site spotted turtle surveys in the Spring of 2020.¹⁷ During said survey(s), Mr. Davison observed a few spotted turtles within a vernal pool (associated with Wetland 6) in the southeast portion of the Site. This wetland—with an abundant food source (e.g., amphibian larvae, aquatic invertebrates) coupled with ample open water and a high degree of vegetation interspersed and hummocky microtopography, for safe basking within the interior of the pool—represents optimal habitat for the species.

Accordingly, on March 18th, a single female turtle was found basking on a hummock in the central portion of the pool. On April 7th, two (2) spotted turtles were observed—again basking on hummocks in the central and southern portions of the pool. The first (a second female) was captured in-hand, while the second disappeared into deep water before it could be examined. Therefore, it is unknown whether this second turtle was the same female observed on March 18th, or a new (third) individual. A spotted turtle was also observed on May 19th; however, that turtle could not be captured in-hand for identification. If both the March 18th and May 19th turtles were new (as opposed to recaptured) individuals, the total number of turtles observed would be four (4).

Beyond this vernal pool, it is anticipated that these turtles utilize the Site's Old Field habitat to the south of the pool (within the utility right-of-way), as well as the large, forested wetland system located south of the right-of-way (off-Site). Suitable nesting habitat is present in areas of the hayfield perimeter, as well as within the utility right-of-way, on-Site.

In addition to a formal species survey, the CTDEEP NDDDB recommended that a series of construction-related protection strategies be implemented for the spotted turtle. These protection

¹⁶ A state of animal dormancy, similar to hibernation, although taking place in the summer rather than the winter.

¹⁷ The surveys were conducted on April 7th, March 18th and March 19th (2020).

strategies include: seasonal construction restrictions; providing awareness/identification training to all Site contractors/workers prior to initiating Project-related construction activities; establishing exclusion zones to prevent unintentional mortality to migrating spotted turtles; and compliance monitoring with these protection measures. The Petitioner has incorporated all of these protective measures into its Resources Protection Plan, which is included within the Environmental Assessment

Importantly, in addition to incorporating the CTDEEP's NDDB proffered strategies, the Petitioner has, on its own volition, proposed further protective strategies for this species. For example, the Petitioner has designed the bottom of the Facility's security fence to be situated six (6) inches above final grade. This gap will allow for unimpeded turtle (and any other small wildlife) migration and will prevent same from being trapped within the fence line. See the Project Plans located within Appendix C for further fencing details. Further, the key habitats that the spotted turtle are known to utilize will remain largely intact post-development of the Project. Lastly, the proposed protection measures are designed to mitigate inadvertent impact to spotted turtles during construction. Based on the foregoing, the Project will not have a significant negative impact to the spotted turtle populations utilizing the Site.

Purple Milkweed

Purple milkweed's habitat typically consists of moist to dry soil types and are generally found along roadsides, fields, and the borders of wooded areas. The blooming period for this species is typically between June and July. While routine farming activities have likely precluded successful propagation of purple milkweed on the Site in the past, historical records show that there is the potential for this plant species to be located on or near the Site. As such, the CTDEEP recommended surveying the Project Area to determine if any suitable habitats and/or plant species presently exist. To that end, the Petitioner has agreed to conduct a survey for same during the anticipated June/July blooming period. If any purple milkweed species and/or suitable habitat is found to exist within the Project Area, the Petitioner has agreed to work with its respective botanist to develop species-specific protection measures, as well as a management plan, to minimize direct impacts. The results of this survey and any associated protection measures and/or management plans will be provided to the Council upon its/their completion.

USFWS Consultation

The northern long-eared bat (“NLEB”; *Myotis septentrionalis*) is a federally-listed¹⁸ threatened species also known to occur in the vicinity of the Site. The NLEB’s range encompasses the entire State of Connecticut and suitable NLEB roost habitat includes trees (live, dying, dead, or snag) with a diameter at breast height (“DBH”) of three (3) inches or greater.

To determine the locations of any known maternity roost trees or hibernaculum in the State, APT reviewed the *Northern long-eared bat areas of concern in Connecticut to assist with Federal Endangered Species Act Compliance map* (March 6, 2019). This map reveals that there are currently no known NLEB maternity roost trees in Connecticut; the nearest NLEB habitat resource to the Site is located in North Branford, approximately 14.5 miles to the south thereof.

The Project will result in the removal of 1.2 acres of trees (some greater than three (3) inches DBH¹⁹) along the existing gravel access road. Since tree removal activities can potentially impact NLEB habitat, APT completed a US Fish and Wildlife Service (“USFWS”) “Determination of Compliance” with Section 7 of the Endangered Species Act of 1973 for the Project.

Pursuant to the USFWS criteria for assessing NLEB, the Project will likely not result in an adverse effect or incidental take²⁰ of NLEB habitat; therefore, a permit from USFWS is not required. On January 9, 2020, the Petitioner received a letter from the USFWS confirming compliance; as such, no further consultation with the USFWS respecting the Project is required. A full review of the *Endangered Species Act (ESA) Compliance Determination* is provided in the Environmental Assessment, in the section labeled *USFWS and NDDDB Compliance Statement*.

D. Wetlands and Vernal Pools

1. Identified Wetlands

¹⁸ Listing under the federal Endangered Species Act

¹⁹ Suitable NLEB roost habitat includes trees (live, dying, dead, or snag) with a diameter a DBH of three (3) inches or greater.

²⁰ “Incidental take” is defined by the Endangered Species Act as take that is “incidental to, and not the purpose of, the carrying out of an otherwise lawful activity.” For example, harvesting trees can kill bats that are roosting in the trees, but the purpose of the activity is not to kill bats.

During a field inspection and wetland delineation of the Site,²¹ Professional Soil Scientists Eric Davison and Matt Davison of Davison Environmental identified portions of six (6) wetlands, two (2) perennial watercourses and one (1) intermittent watercourse on, or proximate to, the Site. The results of the field delineation are summarized below, and additional information is provided in Appendix E, Wetland Delineation Report.²² In addition, three (3) vernal pools were identified on the Site, as discussed in further detail below.

Wetland 1

Wetland 1 is located in the southwest corner of the Site. The wetland has a hydrology ranging from saturated, along the wetland-upland interface, to permanently-flooded, within the central portions of the wetland. The wetland extends west and south off of the Site, and ultimately drains to Misery Brook. Cover types present within Wetland 1 include open water (shallow pond), emergent marsh, scrub-shrub, and forested cover.

The portions of Wetland 1 that are located on and/or immediately adjacent to the Site are forested. Vegetation is typical of forested wetlands in the region; Wetland 1's tree canopy is dominated by red maple and black gum (*Nyssa sylvatica*), and its shrub layer is dominated by highbush blueberry (*Vaccinium corymbosum*), winterberry (*Ilex verticillata*), meadowsweet (*Spirea spp.*), and sweet pepperbush (*Clethra alnifolia*).

Wetland 2

Wetland 2 is located predominantly off-Site and is bounded by residences to the east and west. It is an isolated, permanently-saturated to seasonally-flooded shrub swamp; dominant vegetation within Wetland 2 includes sparse red maple in the overstory, with a dense and nearly continuous shrub layer that is comprised of winterberry and highbush blueberry.

Wetland 3

²¹The field inspection and wetland delineation of the Site was completed on December 20, 2019.

²² The respective locations of these resources are similarly depicted on Figure 2, Existing Conditions Map.

Wetland 3 is a permanently-saturated to seasonally-flooded, forested and scrub-shrub wetland that borders Misery Brook along the Site's northern and northeast boundary.²³ Dominant vegetation within Wetland 3 includes red maple and American elm (*Ulmus americana*) in its overstory; silky dogwood (*Cornus amomum*), winterberry, and spicebush (*Lindera benzoin*) in its shrub layer; and sensitive fern (*Onoclea sensibilis*), cinnamon fern (*Osmunda cinnamomea*), royal fern (*Osmunda regalis*) and tussock sedge (*Carex stricta*) are abundant in its herb layer. There are also areas of dense multiflora rose along the wetland fringes near the access road. Several feeder watercourses are present within Wetland 3, consisting of one intermittent watercourse (IWC-1) and two perennial streams (PWC-1 and PWC-2) that drain into Misery Brook.

Wetland 4

Wetland 4 is located in the southeast corner of the Site and consists of a large wetland with an embedded headwater perennial stream (PWC-2). The stream drains north, flowing through a culvert under the access road, and into Wetland 3 / Misery Brook. Cover types present within Wetland 4 include forested, emergent marsh, and scrub-shrub cover(s).²⁴ The hydrology within Wetland 4 ranges from saturated, along the upland-wetland interface, to permanently-flooded, within the deeper central portions.

Emergent wetland areas close to the access drive consist of a nearly continuous stand of the invasive, non-native reed canarygrass (*Phalaris arundinacea*), along with the invasive purple loosestrife (*Lythrum salicaria*), and patches of arrow tearthumb (*Persicaria sagittata*). Forested portions of Wetland 4 consist of red maple dominated swamp, with spicebush and highbush blueberry dominating the shrub layer, and cinnamon fern, tussock sedge, and dense sphagnum moss abundant in the herb layer.

Wetland 5

Wetland 5 is a small, isolated scrub-shrub wetland located immediately south of the access drive in the eastern portion of the Site. The wetland is seasonally-flooded and captures surface runoff

²³ Misery Brook is a low-gradient stream with a meandering flow path and low vertical banks, resulting in regular overbank flooding into the bordering wetland.

²⁴ The on-Site portions of the wetland are largely forested, except for the northern section close to the existing access road. The southern limits of Wetland 4 lie within the maintained utility right-of-way and are predominantly scrub-shrub.

from the road and adjacent residential yard. The vegetation within Wetland 5 consists of a dense growth of silky dogwood (*Cornus amomum*), spicebush, reed canarygrass, and common reed (*Phragmites australis*).

Wetland 6

Wetland 6 consists of a permanently-saturated to seasonally-flooded, forested wetland. Wetland 6 extends into the adjacent hayfield (particularly on the western side), and drains—in a southwest to northeast direction—into a twelve (12")- inch culvert, beneath the existing gravel access road, into Wetland 3. This is a low-gradient wetland system, particularly with respect to its southern portion, where distinct hummocks are common throughout.

Dominant vegetation within Wetland 6 includes red maple in the overstory, with highbush blueberry, winterberry, buttonbush (*Cephalanthus occidentalis*), sweet pepperbush, silky dogwood, and spicebush in the shrub layer; tussock sedge and sphagnum moss common in the herb layer; and, skunk cabbage (*Symplocarpus foetidus*) and sensitive fern along the saturated fringes of an embedded vernal pool. An intermittent watercourse (IWC-1) was also noted within interior portions of Wetland 6, as it drains north under the existing gravel access road and ultimately discharges to Wetland 3 / Misery Brook.

2. Impacts to Wetlands

While no direct impacts to the above-identified wetlands/watercourses are anticipated in connection with the development/construction of the Facility, limited impacts to these resources are expected to occur as part of the Project's electrical interconnection work. The Petitioner has, however, developed certain safeguards to avoid unintentional impacts to these resources. Said safeguards are described in further detail below.

That said, wetlands are in close proximity to both sides of the existing gravel access road, where interconnection activities are proposed. In order to minimize disruption to these wetlands, no underground lines will be installed; rather, a series of utility poles will be used to support the interconnection line. To facilitate this utility line, limited tree-clearing is required within and adjacent to these wetland areas; however, this will only result in a temporary impact, as any disturbed areas will be seeded with a native wetland seed mix to reestablish vegetative cover.

The Petitioner expects that the only permanent, direct impact(s) to the wetlands will be from the installation of the fourteen (14) utility poles. If staging for same is required within the

wetlands, construction-matting (or a similar alternative) will be used to protect the soil surface from significant disturbance. For further details on the Petitioner’s proposed interconnection design, please refer to Sheet SP-1 of the Project Plans

Other portions of the Project Area will require some construction activity(ies) proximate to these resources; this includes the installation of fencing, solar modules, and stormwater features for the Project. While improvements to the existing access road off of East Street—and associated electrical interconnection work—occur within or adjacent to wetlands, clearing and grading limits for the Facility’s primary infrastructure (e.g., the solar arrays, associated equipment, and fencing) would maintain a minimum setback of approximately ± 125 feet to wetlands.

Table 2, *Wetlands Impacts Table*, provided below, details all anticipated direct impacts to wetlands, as well as the respective distances to wetland resources.

Table 2: Wetland Impacts		
Direct Impacts to Wetland 1 (ac.)	0	
Direct Impacts to Wetland 2 (ac.)	0	
Direct Impacts to Wetland 3 (ac.)	0.05	
Direct Impacts to Wetland 4 (ac.)	0	
Direct Impacts to Wetland 5 (ac.)	0	
Direct Impacts to Wetland 6 (ac.)	0.004	
Total Direct Impacts to Wetlands (ac.)	0	
Project Area Proximity to Wetlands (from limit of disturbance)	Distance (+/- ft.)	Direction (of wetland/water from LOD)
Project Area Proximity to Wetland 1	895	West
Project Area Proximity to Wetland 2	685	Northwest
Project Area Proximity to Wetland 3	0	North
Project Area Proximity to Wetland 4	1	South
Project Area Proximity to Wetland 5	0	South
Project Area Proximity to Wetland 6	0	South & East
Project Area Proximity to Misery Brook	175	North
Project Area Proximity to PWC-1	1	North
Project Area Proximity to PWC-2	0	North & South
Project Area Proximity to IWC-1	0	North & South
Facility Proximity to Wetlands (from perimeter fence)	Distance (+/- ft.)	Direction (of wetland/water from perimeter fence)
Facility Proximity to Wetland 1	905	West
Facility Proximity to Wetland 2	745	West

Facility Proximity to Wetland 3	125	East
Facility Proximity to Wetland 4	695	East
Facility Proximity to Wetland 5	825	East
Facility Proximity to Wetland 6	125	East
Facility Proximity to Misery Brook	255	Northeast
Facility Proximity to PWC-1	610	East
Facility Proximity to PWC-2	520	East
Facility Proximity to IWC-1	150	Southeast

To further promote the protection of (and to avoid unintentional impacts to) these wetlands and watercourses during Project construction, the Petitioner has developed certain safeguards—including, the creation of a Project-specific protection plan and the installation and maintenance of E&S controls, in accordance with the 2002 *Connecticut Guidelines for Soil Erosion and Sediment Control*. See the *Resources Protection Plan* contained within the Environmental Assessment. By implementing these management techniques throughout the duration of Site/Project construction, potential adverse impacts to wetland resources will be mitigated.

Potential long-term secondary impacts to wetland resources associated with the operation of this Facility have similarly been accounted for, and are minimized by several factors, including:

1. The Facility will remain unstaffed, thereby generating negligible traffic;
2. The Project contemplates the utilization of the existing gravel/dirt access drive, which in turn, reduces the creation/addition of new, impervious surfaces; and,
3. The majority of the ground beneath the solar arrays will be treated with native grass/vegetation, thereby providing ample opportunity for surface water to infiltrate or slow prior to discharge to surrounding resources.

As such, the Project will likely not adversely impact the wetland resources identified on, or proximate to, the Site.

3. Identified Vernal Pools

To identify species richness and the abundance of indicator species at the Site, vernal pool surveys were conducted thereon during the Spring of 2020.²⁵ Survey methods included:

- Audial surveys to record chorusing frogs;
- Visual surveys to search for adults, egg masses,²⁶ and larvae; and,
- Dip-netting to identify species within the water column and benthic material.

These surveys revealed the presence of three (3) vernal pools on-Site:

Vernal Pool 1

Vernal Pool 1 is located predominantly off-Site; more specifically, along the northwest property boundary within Wetland 2—approximately 850 feet from the Project Area. Because of its location/distance from the Project Area, detailed surveys of same were not conducted. Rather, an initial audial survey was conducted on March 18th, which revealed a robust chorus of wood frog (*Lithobates sylvaticus*)—thereby signifying that a sizeable population is likely present. Spring peeper (*Pseudacris crucifer*) were also heard chorusing within this resource.

Vernal Pool 2

Vernal Pool 2 is located in the southern portions of Wetland 6. The pool is long and narrow, deeply flooded (maximum water depth was observed at approximately two (2) feet) and contains an abundance of tussock sedge hummocks. At the time of inspection, its water conditions were considered to be tannic. The pool is dominated by mature forest, with its canopy largely comprised of red maple; the shrub layer is dominated by highbush blueberry, winterberry and buttonbush.

There is only a narrow (<50ft) vegetated buffer between the boundary of Vernal Pool 2 and the bordering hayfields to the east and west. This buffer consists of red maple, spicebush, winterberry, dense multiflora rose, silky dogwood, and dense autumn olive. The narrowness of

²⁵ The vernal pool surveys were conducted on March 19th and April 7th, respectively.

²⁶ Egg mass searches were conducted by slowly and methodically wading through the open water in a parallel transect-like pattern, using polarized sunglasses under bright sunny skies.

this forested buffer results in low-quality fossorial habitat for amphibians—largely due to a lack of developed leaf litter, minimal woody debris and soil duff, and limited shade.

Vernal Pool 2 supports two (2) indicator species: the wood frog and the spotted salamander (*Ambystoma maculatum*). Both of these species are common and occur throughout all of the biogeographical regions of Connecticut. An estimated 425 wood frog egg masses were observed in the pool's two (2) large communal rafts: one located at the southern end of the pool, and the second at the northern end of the pool. A few individual masses, scattered throughout the pool, were also observed.

A total of eleven (11) spotted salamander egg masses were also observed. However, because the pool's large expanse of deep water—coupled with the tannic color of the water at the time of inspections—rendered locating egg masses difficult, this figure should be considered a conservative estimate regarding the total breeding output. Nonetheless, the sub-optimal condition of the surrounding wetland buffer, and the overall lack of forest cover in proximity to the pool, are likely limiting factors respecting spotted salamander productivity within this resource.

Vernal Pool 3

Vernal Pool 3 is a cryptic pool located in the southeast corner of the Site (embedded within Wetland 6) and is over 780 feet from the proposed Project Area. It contains a small, concentric pool of open water that appears to have been historically excavated (perhaps for livestock or water collection/extraction purposes). Vernal Pool 3 contains shallow open water (meaning, less than one (1) foot in depth) and very deep muck—thereby rendering same physically inaccessible. Observations from the shoreline confirmed the presence of spotted salamander, with a small communal mass totaling approximately twenty (20) individual masses. The pool had a covering of duckweed (*Lemna spp.*), which indicates that the pool is likely permanently-ponded.

4. Impacts to Vernal Pools

Construction and operation of the Facility would not result in direct physical impact(s) to the identified vernal pools. It is widely documented that vernal pool dependent amphibians are not solely reliant upon the actual vernal pool habitat for breeding (i.e., egg and larval development); they do, however, require surrounding upland forest habitat for most of their adult

lives. As such, generally accepted studies recommend the protection of adjacent habitat up to 750 feet from the vernal pool edge(s) for obligate pool-breeding amphibians.²⁷

Calhoun and Klemens (2002) Methodology²⁸ was used to evaluate potential impacts to the Site's vernal pools (and surrounding upland habitat). This methodology assesses vernal pool ecological significance on two (2) parameters: (1) biological value of the vernal pool, and (2) conditions of the critical terrestrial habitat. The biological rating/value is based on the presence of State-listed species and the abundance/diversity of vernal pool indicator species. The condition of the terrestrial habitat is assessed based on the integrity of the vernal pool envelope (within 100 feet of the pool's edge; "VPE") and the critical terrestrial habitat (within 100-750 feet of the pool's edge; "CTH").

To determine the existing and proposed quality of the terrestrial (non-breeding) habitat(s), the landscape condition of each identified vernal pool was then evaluated. Pools with twenty-five (25%) percent or less developed areas in the CTH are characterized as having "high priority" for maintaining this development percentage (including site clearing, grading, and construction). Based on the results of the landscape analysis, the existing area of development within the CTH of all three (3) vernal pools is less than the twenty-five (25%) percent threshold.

Importantly, the Project will not impact the VPE associated with any of the three (3) vernal pools:

With regards to **Vernal Pool 1**, because the proposed development is over 800 feet away from this resource, the Project will not encroach within the CTH of Vernal Pool 1. As such, the proposed Project will likely not result in an adverse impact to Vernal Pool 1.

Respecting **Vernal Pool 2**, the Project will increase development within the CTH of Vernal Pool 2. While this increase will exceed the twenty-five (25%) percent conservation threshold, the proposed development for the Project will occur entirely within sub-optimal Hay Field habitat, which will remain largely dominated by similar grassland/open field species.²⁹ In addition, the Petitioner's proposed Habitat Enhancement Plan will improve the quality of intervening habitat

²⁷ Calhoun, A.J.K. and M.W. Klemens. 2002. Best Development Practices (BDPs): Conserving Pool-Breeding Amphibians in Residential and Commercial Developments in the Northeastern United States. WCS/MCA Technical Paper No. 5.

²⁸ Ibid

²⁹ Note that a portion of this pool's VPE is also located within the Hay Field.

peripheral to the Facility and Vernal Pool 2.³⁰ As such, it is the Petitioner's position that the proposed Project will not adversely impact this vernal pool.

The Project will also increase development within the CTH of **Vernal Pool 3**; increased development within the CTH is limited to locations outside the fenced Facility, in the far western extremities of this conservation zone, thereby minimizing its effects. This increase in development will not exceed the twenty-five (25%) percent threshold. Because of the arguably *de minimis* increase in development within the CTH of Vernal Pool 3, it is unlikely that the proposed Project will adversely impact this vernal pool.

Of note, should migrating individuals/specimens enter the Project Area during construction, there is the potential for short-term impacts to herpetofauna associated with nearby vernal pool habitats. Any short-term impacts associated with the proposed development within vernal pools' CTH's would, however, be minimized/avoided by proper installation and maintenance of erosion and sedimentation controls in accordance with the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control*, in conjunction with the implementation of the proposed Resources Protection Plan provided in Appendix C.

Results of the vernal pool impact analysis are graphically depicted in Figure 4, Vernal Pool Analysis Map. This figure also includes a table summarizing the impact analysis, comparing existing conditions and proposed impact calculations within the various CTHs.

³⁰ Pursuant to the Petitioner's proposed Habitat Enhancement Plan, this area will be cleared of undesirable vegetation, soil scarified, and seeded with a mix of conservation and semi-shade tolerant species. It will remain un-mowed and allowed to naturally vegetate to reestablish more optimal habitat within both the pool's VPE and CTH.



Figure 4
Vernal Pool Analysis Map
 Proposed Solar Facility - Southington Solar One
 1012 East Street
 Southington, Connecticut

Southington Solar One, LLC

Legend

Site	Solar Modules	Vernal Pool Mitigation Area	Cropland
Perennial Stream	Conc. Equipment Pad	Landscape Screening	Developed
Intermittent Stream	Gravel Access Road	Limit of Disturbance	Hayfield
Utility ROW	Gravel Access Road to be Improved	Mixed Hardwood Forest	Old Field
Transmission Line	Stormwater Basin	Wetland	
Vernal Pool	Stormwater Basin Outlet Gravel		
100' Vernal Pool Envelope (VPE)	Treeline (Clearing Limit)		
100'-750' Critical Terrestrial Habitat (CTH)	Perimeter Fence		
	Interconnection Path (Overhead)		
	Interconnection Path (Underground)		

Map Notes:
 Base Map Source: CTECO 2019 Aerial Photograph
 Map Scale: 1 inch = 800 feet
 Map Date: July 2020

800 400 0 800 Feet

E. Water Resources and Stormwater Management

1. Floodplain Areas

APT reviewed the United States Federal Emergency Management Agency (“FEMA”) Flood Insurance Rate Map (“FIRM”) for the Site. By way of background, a FIRM is the official map of a community on which FEMA has delineated both the special hazard areas and risk premium zones applicable to the community.

Accordingly, the majority of the Site (including the entire Project Area) is depicted on FIRM PANEL #09003C 0603 G, dated May 16, 2017. The extreme eastern portion of the Site is depicted on FIRM PANEL #09003C 0604 F, dated September 26, 2008. Based upon the FIRM, the majority of the Project Area is located in an area designated as “Zone X,” which is defined as an area of minimal flooding. Special Flood Hazard Areas (including “Zone A” and “Zone AE” areas³¹) are mapped on other areas of the Site; with the exception of the eastern-most portion of the existing access road, however, they are outside the Project Area.

The Facility will be located outside the influence of 100- and 500-year floodplains and no additional fill will be placed within the 100-year flood plain as part of the reconstruction of the existing access road. Therefore, the Project will not affect either resource, and no special considerations or precautions relative to flooding are required.

2. Groundwater

Groundwater underlying the Site is classified by the CTDEEP as “GA”.³² This classification indicates groundwater within the Site is presumed to be suitable for human consumption without treatment. Based on available CTDEEP mapping, the ground water classification changes to

³¹ Zone A is defined by FEMA as areas subject to inundation by the 1-percent-annual-chance flood event generally determined using approximate methodologies (base flood elevations are not shown). Zone AE is defined by FEMA as Areas subject to inundation by the 1-percent-annual-chance flood event determined by detailed methods. Base Flood Elevations (BFEs) are shown.

³² Designated uses in GA classified areas include existing private and potential public or private supplies of drinking water and base flow or hydraulically connected surface water bodies.

GAA³³ approximately 75 feet west of the Site, as a result of the presence of nearby public water supply wells.

The entire Site is located within an Aquifer Protection Area (“APA”) identified as “Well 7, 8 A 126” Level A - Final Adopted APA. As stated previously, however, no potable water uses or sanitary discharges are expected in connection with the Project, and no liquid fuels will be stored on-Site (or used in operation of the Facility). To further promote the protection of water resources during construction and operation of the Facility, the Petitioner has developed an Aquifer Protection Plan. See the Resources Protection Plan contained within the Environmental Assessment

Given the proposed protective measures and the Facility characteristics, the Project will have no adverse environmental effect on the Site’s ground water quality.

3. Surface Water

Based upon available CTDEEP mapping, the Site is located in Major Drainage Basin 5 (South Central Coastal), Regional Drainage Basin 52 (Quinnipiac River), and Sub regional Drainage Basin 5203 (Misery Brook). The majority of the Site, including the northern portion of the Project Area, is located in Local Drainage Basin 5203-00 (Misery Brook above unnamed brook). The southern portion of the Site and the southern portion of the Project Area are located in Local Drainage Basin 5203-01 (Unnamed brook at mouth above Misery Brook).

A portion of Misery Brook is located on the eastern portion, and along the northern boundary, of the Site. Misery Brook is classified by the CTDEEP as a Class A surface waterbody. Designated uses for Class A surface waterbodies include: habitat for fish and other aquatic life and wildlife; potential drinking water supplies; recreation; and, water supply(ies) for industry and agriculture uses.

Because sufficient setbacks from water resources have been established, the Project will have no adverse environmental effect on the Site’s surface water quality. During construction, E&S controls will be installed and maintained in accordance with the 2002 *Connecticut Guidelines for Soil Erosion and Sediment Control*, to mitigate potential impact(s) to same. Once the Facility

³³ Designated uses in GAA Classified areas include existing or potential public supply of water suitable for drinking without treatment; baseflow for hydraulically connected surface water bodies.

becomes operative, stormwater will be managed in accordance with the 2004 *Connecticut Stormwater Quality Manual*.

4. Stormwater Management

The Project has been designed to meet the current (January 8, 2020) draft of DEEP's *Appendix I, Stormwater Management at Solar Array Construction Projects*. As a result of Site grading, there will be an increase in stormwater runoff within the Project Area. That increase will require mitigation through the installation of stormwater management basins; four (4) grass-lined stormwater management basins with outflow control devices and overflow weirs are proposed at strategic locations on the periphery of the Facility. See Figure 3, Proposed Conditions Map. While the anticipated change in the Site's post-development drainage characteristics (from existing conditions) is not considered significant, *Appendix I* requires a reduction of on-Site soils Hydrologic Soil Group class by one step, resulting in a substantial increase to the size of the stormwater management basins.

As previously introduced, the southwest and southeast extents of the Project Area will be seeded with habitat-specific blends of grasses and wildflowers to enhance these areas (the "Habitat Enhancement Areas"). Beyond these two Habitat Enhancement Areas, other portions of the Project Area (that will be disturbed during construction) will be stabilized with a low growth seed mix—i.e., New England semi-shade grass and forbs mix (or equal).

To safeguard water resources from potential impacts during construction, the Petitioner is committed to implementing protective measures in the form of a Stormwater Pollution Control Plan ("SWPCP") to be finalized and submitted to the Council, pending approval by the CTDEEP Stormwater Management. The SWPCP will include monitoring of established E&S controls that will be installed and maintained in accordance with the 2002 *Connecticut Guidelines for Soil Erosion and Sediment Control*. The Petitioner will also apply for a *General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities* from the CTDEEP.

Therefore, with the incorporation of these protective measures, stormwater runoff from the Project's development will not result in an adverse impact to the water quality associated with the nearby surface water bodies.

For additional details regarding stormwater management, please refer to the C submitted by the Petitioner as Appendix F.

F. Air Quality

The Site is currently undeveloped; as such, no air emissions are presently generated thereon. Due to the nature of a solar energy generating facility, no air emissions will be generated during the Facility's operations. Therefore, the operation of the Facility will have no adverse effects on the State's air quality, a permit is not required.

During the Project's construction, there is the potential for temporary, construction-related mobile source emissions (associated with construction vehicles and equipment). Any potential air quality impacts related to said construction activities, however, can be considered *de minimis*. Such emissions will, nonetheless, be mitigated using available measures, including, *inter alia*, limiting idling times of equipment; ensuring proper maintenance of all vehicles and equipment; and, watering/spraying to minimize dust and particulate releases. In addition, all on-site and off-road equipment will meet the latest standards for diesel emissions, as prescribed by the United States Environmental Protection Agency.

G. Historic and Archaeological Resources

Heritage Consultants LLC ("Heritage Consultants") of Newington, Connecticut, reviewed relevant historic and archaeological information to determine whether the Site holds potential cultural resource significance. Their review of historic maps and aerial images of the Site, examination of files maintained by the Connecticut State Historic Preservation Office ("SHPO"), and a pedestrian survey of the Site, revealed the presence of four (4) National Register of Historic Places ("NRHP") properties within one (1) mile of the Site. Importantly, however, they are not proximate to the Project Area; and due to their distances from the Site/Project Area, no direct or indirect effects from the Project are anticipated.

Due to the Site's proximity to wetlands and the Misery Brook riparian corridor, and its location within an area of low slopes and well drained soils, Heritage Consultants determined that

the Project Area has the potential to contain intact archaeological deposits in the subsoil. At the request of the Petitioner, Heritage Consultants will perform a Phase 1B Professional Cultural Resources Assessment and Reconnaissance Survey. The survey will be completed as soon as a date is established with the landowner and before any Project-related construction begins. A copy of the *Phase IA Cultural Resources Assessment Survey* is included in the section of the Environmental Assessment entitled *Cultural Resources Reconnaissance Survey Reports*. A copy of the Phase 1B Cultural Resources Assessment and Reconnaissance Survey is also included in that portion of the Environmental Assessment.

H. Scenic and Recreational Areas

No state designated scenic roads or recreational areas will be physically or visually impacted by development of the Project.

Accordingly, there are no state or locally-designated scenic roads or scenic areas located near the Site; the nearest recreational area is the Sloper's Day YMCA Camp located immediately east of the Site. See Figure 5, Surrounding Features Map, for other resources located within one mile of the Site.

The Metacomet Trail, a Connecticut Blue Blaze Hiking Trail, is located approximately one (1) mile southeast of the Project Area. While the elevation of the trail may afford limited views of the Facility from some areas along the ridgeline, the Metacomet Trail is of sufficient distance from the proposed Facility that significant visual impacts from same are not anticipated.

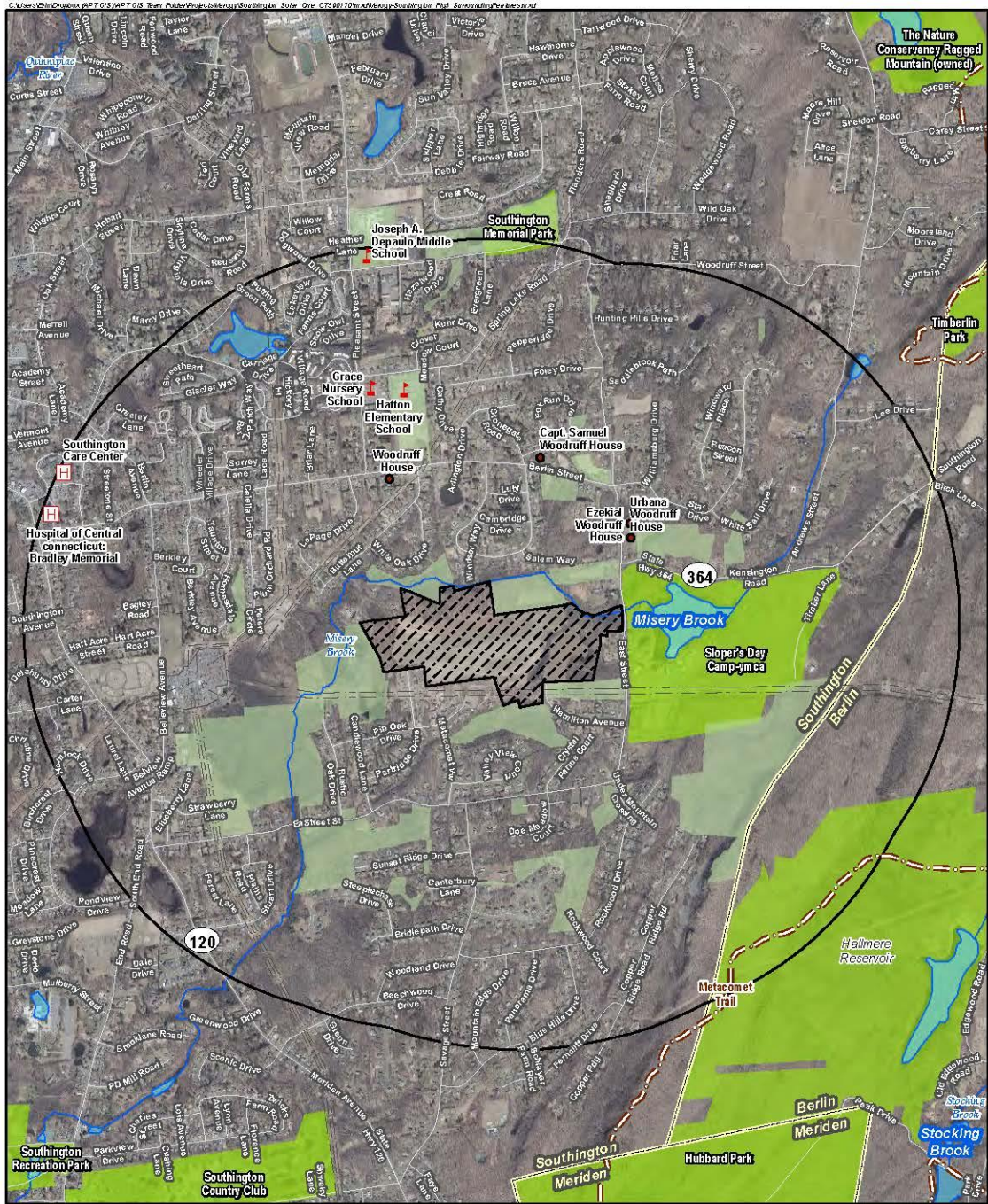
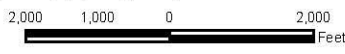


Figure 5
Surrounding Features Map
 Proposed Solar Facility - Southington Solar One
 1012 East Street
 Southington, Connecticut

Southington Solar One, LLC



I. Noise

Currently, the Site is entirely undeveloped. Aside from the noise associated with the periodic farming activities that occur on-Site, no unusual noise sources presently exist.

During construction of the Facility, the temporary increase in noise will likely raise localized ambient sound levels for the area(s) immediately surrounding the Project Area. In general, the highest noise level from the type of construction equipment expected to be used on-Site (e.g., backhoe, bulldozer, crane, trucks, etc.) is approximately 88 dBA at the source. Construction noise is, however, exempted under the Town's Code.³⁴

Once operational, noise from the Project will be minimal and meet applicable Town noise standards for a Residential Daytime/Nighttime Zone.³⁵ The Site is located within a "Class A" Residential Zone. Conservatively, the Facility is considered a "Class B noise emitter to Class A receptors;"³⁶ as such, pursuant to Town regulation(s), it is subject to noise standards of 55 dBA during the daytime and 45 dBA at night.

The only noise generating equipment planned at the Facility are the inverters and transformers. Based on the most conservative information (provided by specified equipment manufacturers), the loudest piece of proposed Project equipment is a 2,000-kVA transformer that will generate a maximum sound level of approximately 68 dBA. Sound reduces with distance, however, and the inverters and transformers are inactive at night.

The closest property line relative to the nearest inverter/transformer, i.e., 38 Windsor Way,³⁷ is approximately 575 feet to the north. APT applied the Inverse Square Law³⁸ to evaluate the relative sound level of the largest transformer to this property line. Based on these

³⁴ Town's Code, Chapter 300 Noise, §300-6 – Exemptions.

³⁵ Town's Code, Chapter 300, §300-5 – Noise Zone Standards.

³⁶ Town's Code, Chapter 300, §300-4 – Classifications of Noise Zones by Land Use - Class A noise zone/uses. Lands designated class A shall generally be residential areas where human beings sleep or areas where serenity and tranquility are essential to the intended use of the land. Class B noise zone/uses. Lands designated class B shall generally be commercial in nature.

³⁷ 38 Windsor Way is zoned (RU 40) Residential.

³⁸ Inverse Square Law states that *the intensity of a force is inversely proportional to the square of the distance from that force*. With respect to sound, this means that any a noise will have a drastic drop-off in volume as it moves away from the source and then shallows out.

calculations, nearby receptors are of sufficient distance(s) from the proposed Project-related equipment, and noise levels during Facility operation will be below 55 dBA at surrounding property lines.

Please refer to the inverter specification sheet provided in the Environmental Assessment for further information regarding the Project's proposed inverters. This information can be found in the section entitled *Product Information Sheets*.

J. Lighting

The Site is undeveloped, and no light sources currently exist thereon. Importantly, no exterior lighting is planned for the Facility. Although there will be some small, non-intrusive lighting fixtures within the equipment to aid in Project maintenance, the Petitioner does not anticipate that this will affect nearby residences and/or surroundings.

K. FAA Determination

APT submitted relevant Project information to the Federal Aviation Administration ("FAA") for an aeronautical study to evaluate potential hazards to air navigation. The FAA provided a Determination of No Hazard to Air Navigation June 12, 2020. This information is contained in the section of the Environmental Assessment labeled *FAA Correspondence*. Based on this determination, there is no need to conduct a glare analysis for the Project.

L. Visibility Evaluation

Year-round visibility of the proposed Facility/Project will be primarily confined to areas generally south of the Site—e.g., from those abutting properties along the northern ends of Partridge Drive, Pin Oak Drive, and Hamilton Avenue. Narrow windrows of trees currently separate these adjacent parcels from the Project Area; and, with the exception of a few properties

north of the electrical transmission corridor on Partridge Drive,³⁹ they are of sufficient density to effectively screen most of the Facility from view(s). Additional year-round visibility from elevated locations farther to the southeast (approximately 0.75 mile) of the Project Site, along Copper Ridge Road, may also be possible, however.

Views from the southwest, along Partridge Drive, will be minimized through the planting of a row of Spartan Junipers along the Facility's opposing fence line. The intervening field will be re-sown with a habitat-specific blend of grasses and wildflowers to help enhance the area and soften potential Facility views. The Petitioner notes that this area would not be mowed as part of the regular maintenance schedule.

When the leaves are off of the deciduous trees, limited seasonal views could extend up to ± 600 feet in all directions—with increased Facility visibility from select locations farther to the southeast of the Site, where elevations rise. In general, however, the Project views beyond the immediate area would be minimized due to the Facility's relatively low height and the presence of intervening vegetation and infrastructure.

As abovementioned, the Metacomet Trail is located approximately one (1) mile to the southeast of the Site. The elevation of this trail, and select western vistas, will afford some views of the Facility from the trail's ridgeline. Due the Facility's distance(s) from these locations, however, an adverse visual impact is not anticipated.

Lastly, the proposed solar modules for the Facility are designed to absorb incoming solar radiation and minimize reflectivity, such that only a small percentage (approximately two (2%) percent) of incidental light will be reflected off the panels. This incidental light is significantly less reflective than common building materials, such as steel, or the surface of smooth water. The panels will be tilted up toward the southern sky at a fixed angle of 30 degrees, thereby further reducing reflectivity/visibility of the Facility.

A viewshed analysis map developed for this Project depicts areas of potential visibility surrounding the Facility; representative photo-simulations from two (2) nearby, publicly-

³⁹ The shortest distance of the Facility's components (fence & panels) to the nearest property line is approximately 140 and 164 feet, respectively.

accessible locations have also been prepared. Please refer to the section of the Environmental Assessment labeled *Viewshed Maps and Photo-simulations*, for said visibility depictions.

VI. Conclusion

As demonstrated by the foregoing, the Project satisfies the standards set forth in C.G.S. § 16-50k(a); specifically, the Project will comply with the CTDEEP air and water quality standards, will not have an undue adverse effect on the existing environment and ecology, and will not affect the scenic, historic, and recreational resources located within the vicinity of the Project Site. Because the Project satisfies the requisite standards, and in light of the benefits this Project will provide to the State of Connecticut and the Town of Southington, Southington Solar One, LLC respectfully requests that the Siting Council approve this Petition for the Project, as it is currently designed.

Respectfully Submitted,
Southington Solar One, LLC
The Petitioner